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ABSTRACT

Young adult females' attitudes toward body weight regulation contain important emotional components. To study the effects of body weight cues on emotionality, 160 college students (75 females, 85 males) completed either a body weight related (Q1) or control (Q2) questionnaire prior to taking the California Test of Personality (CTP). An analysis of the results showed that women, but not men, respond emotionally to stimuli that focus attention on body weight, and the direction of the response pattern depends on body weight image. Overweight body image women given Q1 had significantly lower emotional adjustment scores than all others regardless of actual body weight. Women with normal images had higher CTP scores. Females given Q2 had equivalent scores regardless of body weight or image. Men's emotional response patterns were not influenced by weight related cues. These findings contribute to the methodology of studying populations with eating and/or body weight problems and the understanding of chronic dieting and eating disorders in young adult women. (Author/BL)

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# Body Weight Image and Gender Influence Emotional Response Patterns to Body Weight Related Cues

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Abstract

University students, 75 women (Experiment 1) and 85 males (Experiment 2), were given either a body weight related questionnaire (Q1) or a control questionnaire (Q2) prior to taking the California Test of Personality (CTP), a measure of emotional adjustment. Overweight body image women given Q1 had significantly lower emotional adjustment scores ($p<.01$) regardless of actual body weight than all others. Women with normal images had higher CTP scores ($p<.01$). Females given Q2 had equivalent scores regardless of body weight or image. Men's emotional response patterns were not influenced by weight related cues. The study experimentally demonstrated that women but not men respond emotionally to stimuli that focus attention on body weight and the direction of the response pattern depends on body weight image.

# Body Weight Image and Gender Influence Emotional Response Patterns to Body Weight Related Cues

Current attitudes held by women toward body weight regulation clearly contain important emotional components. Schwartz, Thompson, & Johnson (1982) has pointed out that not only is thinness defined as culturally desirable but obesity is a taboo--something to be feared. Late adolescent and young adult females appear to be strongly influenced by negative stereotypes associated with obesity (Wooley, 1979) and highly value physical attractiveness (Lerner & Karabenick, 1974; Lerner, Orlos & Knapp, 1976). Indeed, concern with meeting a very thin, culturally determined, body weight ideal has been cited as a reason for the high frequency of dieting seen in young women and has been implicated in the eating disorders of anorexia and bulimia (Orbach, 1979; Swift and Stern, 1982; Schwartz, et al, 1982).

The purpose of the current research was to study the effects of body weight cues on emotionality. If late adolescent and young adult women are highly sensitized to body weight and attractiveness, one would most likely observe a set of emotional responses in the presence of stimuli which focus attention directly on the individual's body weight. Whether the response pattern is negative or positive, we believed would depend upon the extent to which the woman's self-perceived weight image meets her standard for thinness. Because young women often incorrectly perceive themselves as overweight (Huenemann, Shapiro, Hampton, & Mitchell, 1966; Nylander, 1971; Rosenbaum, 1979), self-perception is probably more important to the direction and extent of this response than body weight per se. To test our hypothesis we exposed

university women to either a weight-related or non-weight-related questionnaire prior to their taking the California Test of Personality, a general measure of emotional adjustment. University men were also tested to determine sex differences . It was predicted that women would display greater emotionality in response to the cues than men and the direction of the response would be determined by body weight image.

## Experiment I

### Method

Subjects. Seventy-five women, ranging in age between 18 and 42 years, served as subjects. All were enrolled in introductory psychology classes at California State University, Chico and received class credit for volunteering to participate in the experiment.

Material and Procedure. During the initial screening phase, students were given a 10-item multiple-choice survey, generated by the experimeters, dealing with a number of personal issues, including attitudes toward parents, school, and social life. One question asked if the individual would like to lose five or more pounds, lose less than five pounds, remain at her current weight, gain less than five pounds or gain five pounds or more. Those 50 subjects who indicated they would like to lose five or more pounds composed the self-perceived overweight body image group (1).

The 25 women that responded to one of the other four alternatives, showing they perceived themselves as ranging between slightly overweight to underweight were placed in self-perceived normal weight body image group (2).

Subjects were informed that all responses would remain anonymous throughout the experiment and social security numbers were used to identify scores.

The second phase, which was implemented two weeks following the initial screening, was designed to study the interactive effects of perceived body weight and body weight related cues on emotionality. Forty-three experimental subjects randomly selected from each group (28 and 15 from groups 1 and 2, respectively) were given the five-item questionnaire (designed by the experimenter) concerning the subject's body weight satisfaction and diet behavior.

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Insert Table 1 about here

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Questionnaire 1 was administered verbally to subject groups by a female experimenter. Control subjects (22 and 10 from groups 1 and 2, respectively) were given a five-item questionnaire (designed by the experimenters) but one which dealt with benigh, non-weight-related topics. Following completion of the questionnaires, all women were administered the California Test of Personality (CTP), a measure of social and personal emotional adjustment (Sallade, 1974).

Subjects were then weighed, measured for height and wrist diameter, and debriefed. Experimenters informed the subjects they would be weighed and measured after all testing was completed. Only one person indicated awareness of the experimental purpose; however, her score did not differ substantially from other scores in her group.

Based upon the screening test and physical measurements, women given the body weight related questionnaire 1 (Q1) were divided into the following three groups: (1) Group A Q1 (N=15), subjects with normal to thin body images and were within this

range; (2) Group B Q1 (N=15), women with overweight body images and were overweight; (3) Group C Q1 (N=13), subjects with overweight body images but according to weight and bodytype charts provided by the Metropolitan Insurance Company (which were used to classify all subjects in the study) were within a normal body weight range.

A Q2 (N=10), B Q2 (N=12), and C Q2 (N=10) were the three respective control groups given the non-weight-related questionnaire (Q2).

No subject in the sample who perceived herself as normal to thin was overweight.

Results

A 2 (questionnaire) x 3 (perceived-actual body weight) ANOVA was done on the individual global CTP scores. Overall significance was found along the perceived-actual weight dimension ($F(2,69)=16.1$, $p<.001$). The combined means for the perceived normal-normal weight, perceived overweight-overweight, and perceived overweight-normal weight groups were 61.53, 43.12 and 38.54, respectively. The interaction between the two dimensions was also significant ($F(2,69)=18.6$, $p .001$). The questionnaire $F$ ratio did not reach significance.

Newman-Keuls' pair-wise comparisons done on the means for the six groups revealed the following results: (1) Women in either the perceived overweight-normal weight group (C Q1) or perceived overweight-overweight group (B Q1) given the weight related questionnaire had emotional adjustment mean scores which were equivalent ($\bar{X}_{C\text{-}Q1}=30, \bar{X}_{B\text{-}Q1}=33.16$, $p>.05$) and lower (indicating the poorest level of emotional adjustment) than all other groups ($p<.01$ for each comparison). (2) Self-perceived normal

normal or underweight women given the weight related questionnaire had a higher emotional adjustment mean score than all other groups ($\bar{X}_{A-Q1}=76.22$, $p<.01$ for each comparison). (3) There were no differences ($p>.05$) between the emotional adjustment mean scores for the three control groups given the non-weight related questionnaire ($\bar{X}_{A-Q2}=47.85$, $\bar{X}_{B-Q2}=53.08$ and $\bar{X}_{C-Q2}=46.45$), indicating that only when subjects' attention was focused on body weight by verbal stimuli did their self-perceived body images influence emotional adjustment scores.

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See Figure 1

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## Experiment 2

### Method

Subjects. The subjects were 86 men who were enrolled in introductory psychology classes at California State University, Chico and ranged in age between 18 and 26 years. All received class credit for serving in the experiment.

Procedure. The procedure and material employed in the current experiment were identical to those used in Experiment 1. However, with the exception of two subjects who were excluded from the study, men displayed accurate body images. Thus males were divided into groups according to the five following designations established by the Metropolitan Life Insurance Company: G1 overweight by five pounds or more (N=15); G2 overweight by less than five pounds (N=15); G3 normal weight (N=18); G4 underweight by less than five pounds (N=20); G5 underweight by five pounds or more (N=19). Approximately half the subjects from each group were randomly assigned to the

experimental condition and were given the weight-related questionnaire (Q1) prior to taking the CTP. The remaining men responded to the neutral questionnaire (Q2) prior to completing the CTP.

A 2 (questionnaire) x 5 (weight class) ANOVA done on the individual global CTP scores failed to find significance along any dimension. Means for the paired experimental (A1) and control (Q2) conditions were $\bar{X}_{G1\text{-}Q1}=57.12$; $\bar{X}_{G1\text{-}Q2}=61.28$; $\bar{X}_{G2\text{-}Q1}=57.6$; $\bar{X}_{G3\text{-}Q1}=55.6$; $\bar{X}_{G3\text{-}Q2}=57.6$; $\bar{X}_{G4\text{-}Q1}=54.0$; $\bar{X}_{G4\text{-}Q2}=55.8$; $\bar{X}_{G5\text{-}Q1}=55.8$; $\bar{X}_{G5\text{-}Q2}=56.7$. Exposure to the weight-related questionnaire did not influence emotional adjustment scores in male students.

Summary of Results

Our findings indicate that university women but not men are sensitive to weight-related stimuli that interact with self-perceived body image to influence emotional adjustment scores. Women who perceived themselves as overweight regardless of actual body weight produced the lowest scores when they were exposed to the weight-related questionnaire and women who perceived themselves as thin or normal generated the highest scores after taking the experimental questionnaire. In the control condition, when the participants were exposed to the non-weight-related questionnaire, all women regardless of perceived body weight had equivalent emotional adjustment scores. University men generated uniform and moderately high scores regardless of perceived weight, or experimental exposure to weight cues. Further, 48% of women who had normal to thin body weights perceived themselves as overweight, but only two males (3% of men sampled in the same range) had similar body weight image distortions--a sample too small to be tested. No woman who was overweight viewed

herself as thin or normal. Thus, university women seem to distort body image only in the direction of obesity and men generally have a more accurate image. The results clearly demonstrate sex differences in the response to weight cues and accuracy of body weight perception.

## Discussion

The study experimentally demonstrates that body weight image and gender influence emotional response patterns to body weight related cues. We believe current findings are important to the methodology of studying populations with eating and/or body weight problems and directly to the understanding of chronic dieting and eating disorders observed in young adult women.

Sallade (1973) found no difference between obese and non-obese children on the California Test of Personality. In a general review focusing on personality traits and adjustment factors, McReynolds (1982) reported that most studies failed to differentiate between non-obese and obese subjects from a wide range of populations. Similarly, we found no difference between the groups of women on emotional adjustment unless they were exposed to weight-related stimuli. Our results suggest that differences between weight sensitive populations (the extremely obese young women and obese children) and others are best observed in the presence of relevant situational variables.

Differences in emotional adjustment scores produced by exposure to weight-related stimuli could be interpreted as a set of conditioned emotional responses to such cues. The stimuli possibly remind the women of an important flaw or asset in her self image thus eliciting a corresponding and temporary emotional state which is

reflected in her responses to the CTP items. The sex difference in terms of conditioning can possibly be accounted for by socialization. Women, far more than men, in our society are inculcated with attitudes that closely link self worth, attractiveness, and body weight which are reflected in their high degree of concern with these subjects (Lerner, et al, 1974, 1976; Orback, 1979; Wooley, 1979).

Emotional responses triggered by weight related cues could help induce the avoidance behaviors seen in chronic dieting and eating disorders (anorexia and bulimia) that are predominantly seen in females. The stimuli contained in the experimental questionnaire are similar to those encountered by women in high frequency from a multiplicity of sources; particularly advertisements found in newspapers, television commercials and magazines, which often purposely amplify these stimuli. Of course, dieting and certain eating disorders have complex etiologies which may vary according to the individual. Nevertheless, Schwartz, et al (1982) has argued that social-cultural pressures toward thinness are risk factors with respect to anorexia and bulimia. We believe that these pressures could be affected, in part, through conditioned emotionality.

Finally, we must stress the fact that the nature of the emotional response is dependent upon body weight image. Women who perceived themselves as thin responded positively to weight cues. How these women differ from their thin counterparts with distorted body images may provide insights not only into eating habits and disorders but general stability and functioning in young adult women.

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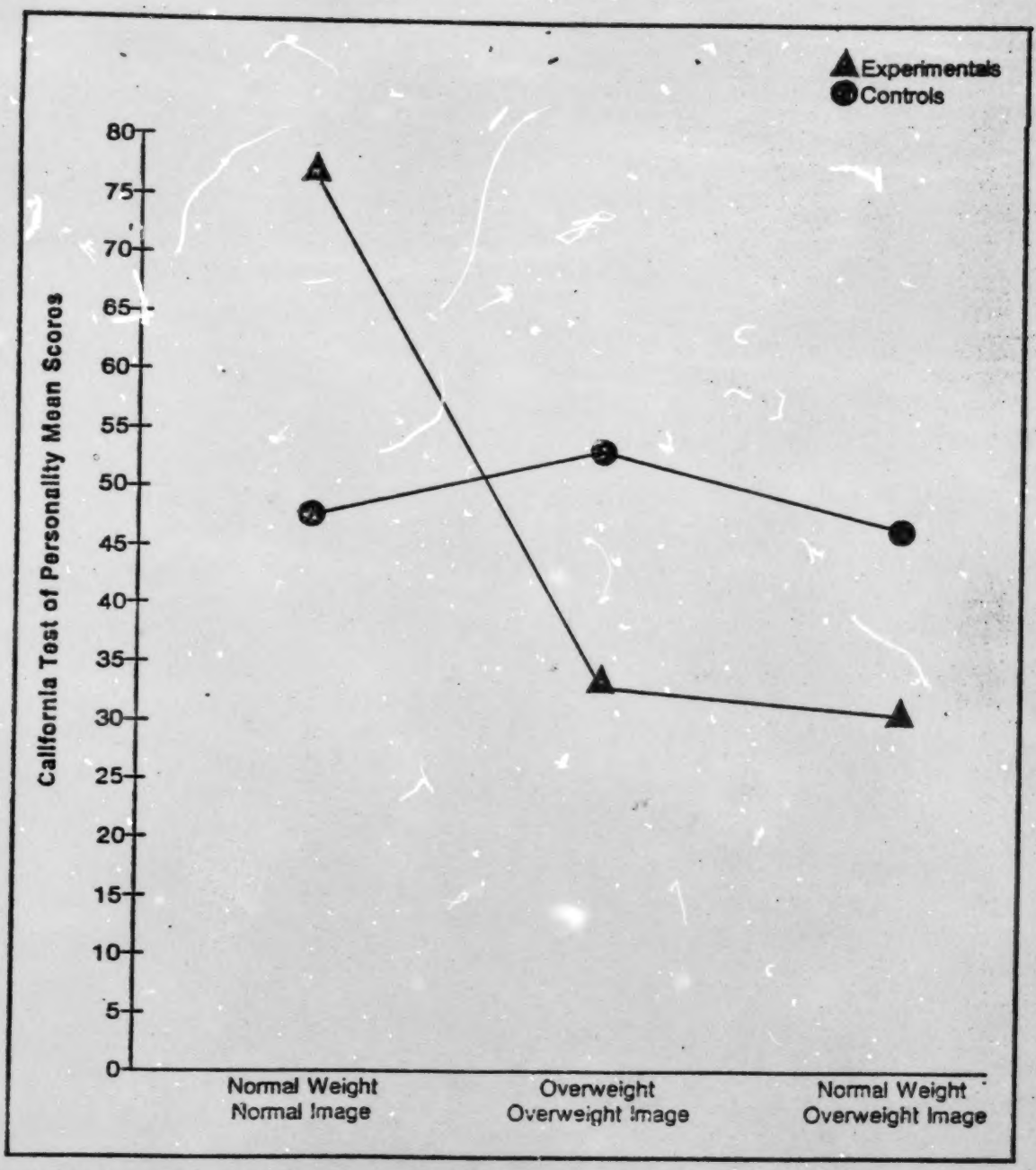
Experimentals
Controls
California Test of Personality Mean Scores
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
Normal Weight
Normal Image
Overweight
Overweight Image
Normal Weight
Overweight Image